

**Calendar No. 557**

110TH CONGRESS }  
2d Session }

SENATE

{ REPORT  
110-257 }

MAX CLELAND MINORITY SERVING INSTITU-  
TION DIGITAL AND WIRELESS TECH-  
NOLOGY OPPORTUNITY ACT

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R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND  
TRANSPORTATION

ON

S. 1650



JANUARY 8, 2008.—Ordered to be printed  
Filed, under authority of the order of the Senate of December 19, 2007

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

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### MAX CLELAND MINORITY SERVING INSTITUTION DIGITAL AND WIRELESS TECHNOLOGY OPPORTUNITY ACT

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Mr. INOUE, from the Committee on Commerce, Science, and  
Transportation, submitted the following

### REPORT

[To accompany S. 1650]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 1650) to establish a digital and wireless network technology program, and for other purposes, having considered the same, reports favorably thereon, with amendments, and recommends that the bill (as amended) do pass.

#### PURPOSE OF THE BILL

The purpose of the bill is to establish a \$250 million per year grant program within the Department of Commerce (DOC) from fiscal years 2008 through 2012 to strengthen the ability of minority-serving institutions (MSIs), which include Historically Black Colleges and Universities (HBCUs), Hispanic-Serving Institutions (HSIs), tribal colleges and universities (TCUs), Alaska Native-serving institutions, and Native Hawaiian-serving institutions to provide instruction in digital and wireless network technologies, and enhance the Nation's digital and wireless infrastructure by increasing national investment in telecommunications and technology infrastructure at these institutions. The bill is designed to close the "economic opportunity divide" that exists between the graduates of MSIs and graduates of other institutions of higher learning, and thus, improve the quality of education for students at MSIs. These

institutions will continue to play an important role in providing the Nation with a well educated and talented workforce.

The bill would allow eligible institutions the opportunity through grants, contracts, or cooperative agreements, to acquire equipment, instrumentation, networking capability, hardware and software, digital network technology, and wireless technology and infrastructure. These institutions also would be able to develop and provide educational services, including faculty development, related to science, mathematics, engineering, or technology. MSIs could use the funds to offer students universal access to campus networks, dramatically increase their connectivity rates, or make necessary infrastructure improvements.

Through a peer-reviewed process, and in consultation with the Secretary of the DOC, eligible institutions could receive up to \$2.5 million per year with a 25 percent cost-sharing (not to exceed \$500,000). This matching requirement would be waived for any MSI with an endowment of less than \$50 million.

#### BACKGROUND AND NEEDS

##### *Historically Black Colleges and Universities*

In October 2000, the DOC's National Telecommunications and Information Administration (NTIA) released a report, *Historically Black Colleges and Universities: An Assessment of Networking and Connectivity*. The report was the product of a study to gain an overall perspective of the networking capabilities and connectivity of HBCUs, and to obtain data that would evaluate the capacity of HBCUs to function as part of the national global network. An assessment instrument was sent to all 118 HBCUs; eighty colleges (68 percent) responded.

The report found that 88 percent of the respondents had access to T-1 lines, which provide a bandwidth of a specific speed rate and capacity suitable for basic functions, from their local Internet service providers and operating companies. Fifty percent of reporting institutions had access to T-3 lines, which offer greater capacity, though only three institutions were using T-3 connections. Forty-three percent of respondents had Asynchronous Transfer Mode technology that allows for greater bandwidth and broader Internet technology access. Of the 43 percent that had such access, only 45 percent indicated they used the technology. Twenty-nine percent of HBCUs reported having access to wireless Internet service and 43 percent of those with access were using it.

These technology restrictions limit HBCUs' abilities to fully utilize existing technology applications and connect with other institutions of higher education. For example, many schools do not have video streaming capability, and there is only minimal use of group software indicating limited use of intranets, or other Internet-based collaboration. Fewer than 15 percent of the respondents offered distance-learning programs. HBCU connectivity with libraries, State college systems, the Federal government, and other resources remains limited.

In addition, the study found limited student computer ownership. No HBCU reported requiring computer ownership, and only 15 percent recommended that students bring their own computers to campus. Seventy-six percent of the responding schools estimated

that less than one of every four of their students owned a computer; therefore, over 75 percent of students attending HBCUs must rely on the universities to provide computers to access the Internet, World Wide Web, or other network. In the face of this need, only 50 percent of the responding HBCUs provide students access to these networks at multiple campus locations, and only 45 percent provide access to the campus backbone in dormitory common areas.

The NTIA report suggested the following goals: (1) improvement of high-speed connectivity rates; (2) a dramatic increase in student computer ownership; (3) improvement of HBCUs' strategic planning process; and (4) willingness to incorporate innovative technologies into campus networks.

#### *Tribal colleges*

Tribal colleges also have demonstrated a need for improved technology infrastructure. For example, only one tribal college currently has funding for high bandwidth connectivity. All tribal colleges have some degree of T-1 access, but most only have fractional T-1 access. In addition, the NTIA report found that tribal colleges struggle to hire and maintain computer technicians, offering salaries at half the industry average.

#### *Hispanic-serving institutions*

HSIs are two- and four-year colleges and universities whose Hispanic-American student enrollment is 25 percent or greater of total enrollment. Hispanics represent approximately 14.5 percent (3.6 million) of the total traditional college-age population. In 2004, Hispanics composed 5 percent of graduate students and had particularly low representation in advanced degrees in engineering, mathematics, and computer and physical sciences. HSIs suffer technology problems similar to those of HBCUs, according to the Hispanic Association of Colleges and Universities which represents HSIs.

### LEGISLATIVE HISTORY

S. 1650 was introduced on June 19, 2007, by Senator Kerry. Senators Stevens, Warner, Pryor, Smith, Boxer, Lott, and Webb are cosponsors of the legislation. On June 27, 2007, the Committee met in an open executive session and, by voice vote, ordered S. 1650 reported with an amendment.

Previously, the bill was introduced in the 109th Congress as S. 432, which was sponsored by Senator Allen, and passed by the Senate without amendment by unanimous consent. In the 108th Congress, the Committee reported S. 196, which was passed by the Senate by a vote of 97 to 0. S. 196 was also sponsored by Senator Allen. The Committee initially considered and reported this legislation in the 107th Congress, when Senator Cleland sponsored S. 414, the NTIA Digital Network Technology Program Act.

### ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

U.S. CONGRESS,  
CONGRESSIONAL BUDGET OFFICE,  
*Washington, DC, July 11, 2007.*

Hon. DANIEL K. INOUE,  
*Chairman, Committee on Commerce, Science, and Transportation,  
U.S. Senate, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 1650, the Max Cleland Minority Serving Institution Digital and Wireless Technology Opportunity Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Susan Willie.

Sincerely,

PETER R. ORSZAG, *Director.*

Enclosure.

*S. 1650—Max Cleland Minority Serving Institution Digital and Wireless Technology Opportunity Act*

Summary: S. 1650 would create a new grant program at the Department of Commerce (DOC) for educational institutions that serve minority students. Eligible institutions would use the funds to acquire digital and wireless technologies and to increase instructional capacity in the areas of science, mathematics, and technology. The bill would authorize the appropriation of \$250 million per year over the 2008–2012 period for this program and would require grant recipients to provide matching funds under certain conditions.

Assuming appropriation of the authorized amounts, CBO estimates that implementing S. 1650 would cost \$823 million over the 2008–2012 period. CBO estimates that enacting this bill would have no effect on direct spending or revenues.

S. 1650 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA); any costs to state, local, or tribal governments would result from complying with conditions of federal assistance.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 1650 is shown in the following table. For this estimate, CBO assumes that the bill will be enacted near the end of 2007, that the authorized amounts will be appropriated near the start of the fiscal year, and that outlays will occur at rates similar to other DOC grant programs. The costs of this legislation fall within budget function 370 (commerce and housing credit).

	By fiscal year, in millions of dollars—				
	2008	2009	2010	2011	2012
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Authorization Level .....	250	250	250	250	250
Estimated Outlays .....	30	130	200	228	235

Intergovernmental and private-sector impact: S. 1650 contains no intergovernmental or private-sector mandates as defined in UMRA. The bill would benefit public institutions of higher education by authorizing \$250 million per year, for fiscal years 2008 through 2012, to strengthen their capacity to provide instruction in digital net-

work technologies. Any costs they might incur would result from complying with conditions of federal assistance.

Estimate prepared by: Federal Costs: Susan Willie; Impact on State, Local, and Tribal Governments: Elizabeth Cove; Impact on the Private Sector: Justin Hall.

Estimate approved by: Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

#### REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

#### NUMBER OF PERSONS COVERED

The Committee believes that the bill would not subject any individuals or businesses affected by the legislation to any additional regulation.

#### ECONOMIC IMPACT

This legislation would not have an adverse impact on the Nation. It authorizes funding for digital and wireless network technologies related awards to MSIs.

#### PRIVACY

This legislation would not have a negative impact on the personal privacy of individuals.

#### PAPERWORK

This legislation would require each award recipient to provide to the DOC any relevant institutional statistical or demographic data as requested by the DOC. Each award recipient would be required to submit an annual report to the Secretary of the Department of Commerce detailing its use of funding. The Secretary would be required to submit to Congress a bi-annual report based upon an evaluation of the program including a recommendation on the need for continued Federal support of the program.

#### SECTION-BY-SECTION ANALYSIS

##### *Section 1. Short title*

This section sets forth the short title of the bill as the “Max Cleland Minority Serving Institution Digital and Wireless Technology Opportunity Act.”

##### *Section 2. Establishment of office*

This section would establish an office at the DOC that would be called the “Office of Digital and Wireless Network Technology” (Office) to carry out this Act. The Office would have two purposes: (1) to strengthen the ability of eligible institutions to provide capacity for instruction in digital and wireless network technologies; and (2) to strengthen the national digital and wireless infrastructure by increasing national investment in telecommunications and technology infrastructure at eligible institutions.

### *Section 3. Activities supported*

This section would set forth that a grant, contract, or cooperative agreement under this Act may be used to—

- (1) acquire equipment, instrumentation, networking capability, hardware and software, digital network technology, wireless technology, and infrastructure;
- (2) develop and providing educational services, including faculty development, related to science, mathematics, engineering, or technology;
- (3) provide teacher education, library and media specialist training, and preschool and teacher aid certification to individuals who seek to acquire or enhance technology skills in order to use technology in the classroom or instructional process;
- (4) implement joint projects and consortia to provide education regarding technology in the classroom with a State or State education agency, local education agency, community-based organization, national non-profit organization, or business, including minority businesses;
- (5) provide professional development in science, mathematics, engineering, or technology to administrators and faculty of eligible institutions with institutional responsibility for technology education;
- (6) provide capacity-building technical assistance to eligible institutions through remote technical support, technical assistance workshops, distance learning, new technologies, and other technological applications;
- (7) foster the use of information communications technology to increase scientific, mathematical, engineering, and technology instruction and research; and
- (8) develop proposals and develop strategic plans for information technology investments.

### *Section 4. Application and review procedure*

This section would establish an application and review process. Subsection (a) would require an eligible institution to submit an application to the DOC Secretary in order to receive a grant, contract, or cooperative agreement. The Secretary, in consultation with the advisory council established under subsection (b), would establish application acceptance procedures and publish grant notifications and statements regarding the fund availability.

Subsection (b) would require the Secretary to establish an advisory council for advising the Secretary on the best approaches for involving eligible institutions.

Subsection (c) would require an institution receiving a grant, contract or cooperative agreement to provide relevant institutional statistical or demographic data to the Office.

Subsection (d) would require the Secretary to convene an annual meeting of eligible institutions that receive support under this program to foster collaboration and capacity-building activities among eligible institutions and to disseminate information and ideas generated by such meetings.

### *Section 5. Matching requirement*

This section would require that institutions awarded a grant, contract, or cooperative agreement make available the lesser of 25



percent of the amount of the non-Federal award or \$500,000. The Secretary would be required to waive the matching requirement for any institution with no endowment, or an endowment worth less than \$50,000,000.

*Section 6. Limitations*

This section would prohibit an eligible institution with a grant, contract, or cooperative agreement under this Act of more than \$2,500,000 from receiving another grant, contract, or cooperative agreement unless every other eligible institution that has applied for a grant, contract, or cooperative agreement has received a grant, contract, or cooperative agreement.

*Section 7. Annual report and evaluation*

This section would require each institution awarded a grant, contract, or cooperative agreement, to submit an annual report to the Secretary detailing its use of the funding. Also, the Secretary, in consultation with the Secretary of Education, would be required to review the reports and evaluate the program every two years. Finally, the Secretary would submit a report, including recommendations, to Congress based on the evaluation.

*Section 8. Definitions*

This section would define key terms in this Act.

*Section 9. Authorization of appropriations*

This section would authorize appropriations of \$250 million for each of fiscal years 2008 through 2012 to carry out this Act.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee states that the bill as reported would make no change to existing law.